&Gt. Brit., Colonial Office G-3 (1947) 1949 MM1 Aden MM1

take shape. The appointment of an Assistant Medical Officer with special knowledge of venereal and skin diseases was a definite step forward in the campaign against social diseases. It has now been possible to organise better treatment for both in-patient and out-patient venereal-disease cases at the Civil Hospital.

In addition, systematic treatment of tropical ulcers was started, with the result that the hitherto overcrowded ulcer ward was markedly improved owing to the reduction in the time needed to effect a cure.

The Civil Hospital staff was strengthened by the appointments of a Medical Officer with laboratory experience, a Surgical Specialist, and a Radiologist.

The installation of a new X-ray plant, the construction of a much-enlarged laboratory, the erection of a new 44-bed ward for pulmonary tuberculosis and an additional operating theatre were all completed during the year.

With the exception of pulmonary tuberculosis, all the principal causes of death showed a general decrease, though the death-rate exceeded that of 1946. This was due to the deaths during the civil disturbances.

The number of deaths from pulmonary tuberculosis rose from 191 in 1946 to 241. The reason for this was more accurate diagnosis due largely to increased X-ray examinations. Over 1,000 such examinations were made during the year, compared with an annual average of 20 to 30 before 1945.

As a result of the disturbances in December no cases could be accommodated in the new tuberculosis ward, which had to be used for emergency purposes. A severe shortage of beds led to the institution of domiciliary treatment and the monthly average of cases visited in their homes was between 50 and 60. Apart from the fact that a surprisingly large proportion of cases showed improvement, this extension of anti-tuberculosis activities was of public health importance as it was possible to teach simple hygiene in the homes.

The civil disturbances in December threw a tremendous burden upon the staff and resources of the Civil Hospital. The fact that the administration successfully stood the test of the sudden admission of scores of severely wounded cases reflected great credit on the staff, particularly upon the locally trained members who rendered loyal and efficient service.

Attendance at the Maternity and Child Welfare Clinic continued to increase and there is no doubt that the instruction given at the various out-patient clinics is beginning to have an important effect on a community which has been, until quite recently, completely ignorant of the principles of mothercraft.

During the last quarter of the year, the outbreak of cholera in Egypt caused a big increase in the work of the Port Health staff. Not only had strict supervision to be exercised over all entrants from infected ports but a large number of in-transit passengers and crews had to have anti-cholera inoculations before proceeding to Egyptian ports. No case of cholera, or of any of the other quarantinable diseases, occurred.

S:Gt. Brit., Colonial Office G-3 (1947) 1949 MMI Aden MM1

164 165

Causes of Deaths in 1947

Disease	*Deaths*
Smallpox	—
Malaria	37
Enteric Fever	5
Other Fevers	223
Dysentery	16
Diarrhoea	265
Phthisis	244
Other Respiratory Diseases	240
Injuries	75
Deaths from child-birth	17
All other causes	701
Birth-rate	30·43
Death-rate: Crude	23·50
Actual	18·59

HOUSING

362 There are four types of housing in the Colony:

342 (*a*) Well-built bungalows or two-storeyed houses of European design, owned by Government or commercial firms and occupied chiefly by Government officials and the European mercantile community.

(*b*) Well-built multi-storeyed stone in lime-mortar structures, owned by the wealthier type of merchant, most of which are owner-occupied.

(*c*) Single- and two-storeyed buildings constructed of rubble stone jointed with mud (clay) mortar. Quite a number of these are also owner-occupied.

(*d*) Single-storeyed "mud brick" buildings. These are situated mostly in Sheikh Othman and many are owner-occupied.

342 [132] All four types have flat timber roofs covered with lime concrete or rammed clay. Pitched roofs are rare, as the average annual rainfall is less than 2 inches, and the roofs are used for sleeping purposes during the hot season.

There is a fifth type constructed of reeds, palm leaves, branches of trees, corrugated iron, and known as *kutcha* dwellings. (*Kutcha* is a Hindustani word meaning "of poor construction".)

362 A slum clearance and rehousing scheme, whereby these *kutcha* huts were to be replaced gradually by mud-brick dwellings with proper sanitary arrangements, was begun under the aegis of the Aden Settlement in 1943, and this policy is being continued by Government. Up to the end of 1947, 80 of these dwellings had been constructed, and a further 116 were scheduled to be begun in 1948.

362 161 During the war and for a period afterwards, for a variety of reasons (principally large military constructional works, increase in the strength

6;Gt. Brit., Colonial Office G-3 (1948) 1950 MM1 Aden MM1

of the X-ray department, an increase in hospital beds and additional staff provided by the Aden Society for the Prevention of Tuberculosis—one full time T.B. Inspector and one voluntary home visitor.

The new male T.B. Ward, the provision of 17 beds in the Jewish Emergency Hospital and the increase of beds in the T.B. Hospital, Sheikh Othman, mean that there are 100 beds for pulmonary tuberculosis patients compared with 10 in 1944.

X-ray examinations, screening or film, totalled 2,160 compared with 20 in 1944. By the end of the year another 100 cases were being treated in their own homes as compared with none in 1944. While the total of notified cases rose to 481 for the year, only 159 of these were Aden born residents. In 1944 80 notifications were entered and in 1947 the number was 282.

The results of treatment continued to be satisfactory, over 40 cases being discharged during the year as fit to resume work.

The most notable advance was in the introduction of regulations whereby Government employees contracting pulmonary tuberculosis in the course of their duties were granted full-pay leave if it was considered by a Medical Board that they would benefit sufficiently from such treatment to return to work. The result has been that cases have come up for investigation at an early stage as they knew that they would receive pay throughout their course of treatment.

Of 18 Government employees so entitled, seven have been treated and resumed work, 10 are under treatment and making good progress, one has not improved. There were also two cases who elected to take gratuities and return to Somaliland Protectorate. Both have since got much worse.

These figures show that the standard of recovery is high and it is further proved by the following small but interesting figures. Since 1945 four male and two female nurses contracted pulmonary tuberculosis, of these two were sputum negative; of these cases, five are now back on full nursing duties, and the sixth case was on the point of being discharged as sufficiently well to resume work, when he had a severe mental breakdown and had to be medically boarded on this account.

Deaths from T.B. were 209 as compared with 244 in 1947.

Maternity and Child Welfare

The Maternity and Child Welfare Clinic has shown a welcome increase in attendances by the Arab community. All other communities have taken full advantage of its facilities during the last two years but Arab women have hitherto been held back by old-fashioned ideas. This prejudice is beginning to break down and this is proof that the excellent work done by this institution is now being recognised more adequately.

A gratifying addition to the already heavy routine duties of the Medical Officer and her staff of midwives was the voluntary undertaking of a course of training for local midwives, all of whom are quite untrained.

The course proved very popular and the average attendance was 31, which includes a considerable proportion of the women known to be earning their livelihood by undertaking midwifery work.

6:Gt. Brit., Colonial Office G-3 (1948) 1950 MM1 Aden M M1

Training

759 This year has seen a considerable extension of facilities for training. One Senior Assistant Medical Officer was absent on study leave for the greater part of the year to take a post-graduate course. He has since obtained the F.R.F.P.S. (Glasgow). One Arab student proceeded to Birmingham University to take a medical course. Two hospital assistants were sent to the United Kingdom for three years' training as male nurses.

One hospital assistant was enrolled at a London hospital for one year's training as laboratory technician.

One Sanitary Inspector proceeded to Bombay to take a six-month course of training prior to examination for the Sanitary Inspector's Certificate of the Royal Sanitary Institute.

161 *Vital Statistics*: 1948

163

Population—1946 Census	82,359
Births	2,192
165 Birth-rate	26·61 per thousand
Deaths	1,360 (338 non-residents)
Death-rate	20·62 per thousand
Deaths under one year of age	385
Infant Mortality Rate	171·18 per thousand
Still-births	125

342 HOUSING

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7: Gt. Brit., Colonial Office G-3 (1949-50) 1951 MM1 Aden mm1

On an estimated basis of 100,000 population the death rate for 1949 was 16·58 per 1,000, but of the 1,658 deaths 376 occurred among immigrants, as Aden receives many sick from adjoining territories where no health services exist. 165

The Civil Hospital is the only well-equipped hospital in a large area and among both out-patients and in-patients an analysis of attendances shows that 60 per cent of those seeking treatment come from outside the Colony, the major portion being alien Yemenis who have no claim either by residence or by nationality on the social services of Aden. Their only claim is on the score of humanity, a plea which is difficult to resist for many of them have dragged themselves along for distances varying from 150 to as much as 500 miles to obtain care and attention in Aden. 743 167

The various departments of the Civil Hospital showed evidence of increased activity. On the surgical side major operations exceeded 1,000, the average for previous years having been between 400 and 500. 743

Operations for diseases peculiar to women were performed by a woman medical officer. This was the first time that the services of a skilled woman surgeon were available and this innovation was particularly welcome in a territory where Muslim tradition precludes a number of women from seeking surgical treatment at the hands of male doctors. [759]

Other improvements included the establishment of a physiotherapy department and the purchase of a wide range of modern equipment for the eye department.

The opening of another ward for pulmonary tuberculosis resulted in one-third of the beds in the Civil Hospital being allocated for the treatment of this disease. The T.B. Ward at Sheikh Othman was abandoned. Plans for another ward for female T.B. patients, the gift of the Aden Society for the Prevention of Tuberculosis, were approved and its construction was begun.

During this two-year period about 42,000 Yemenite Jews passed through the transit camp on their way to Israel. While the bulk of the camp staff were recruited from Israel, the responsibility for camp sanitation and for providing specialist medical and surgical services fell on the Medical Department. 744 167

Communicable Diseases

Smallpox. Despite the importation of a number of smallpox cases and the occurrence of a smallpox epidemic in the neighbouring port of Mukalla, the disease did not spread. 164

There were two imported cases of typhus, one by sea and one by land.

Venereal Diseases. The campaign against the social diseases made steady progress while the marked reduction in the number of defaulters reported in 1948 was well maintained.

Dysentery and typhoid. The incidence of dysentery, both bacillary and amoebic but particularly the latter, showed a marked falling-off.

7: Gt. Brit., Colonial Office G-3 (1949-50) 1951 MM1 Aden mm1

164 An important factor influencing this reduction has been the intensification of the methods of fly control.

No outbreak of typhoid occurred, all notified cases were sporadic in origin and a number of them were among recent arrivals from the interior.

Pulmonary Tuberculosis. In 1950 the total deaths from this disease amounted to 113 compared with 293 per 100,000 of population in the period 1930-44. The decrease is directly attributable to the measures taken since 1945. These include the provision of more beds—there is now one bed for each T.B. death as compared with one bed for 25 deaths in 1944; domicilary care for cases for whom no hospital accommodation could be provided ; and financial aid by the Aden Society for the Prevention of Tuberculosis to the dependants of those undergoing treatment either in hospital or at home.

The results of treatment have been encouraging, about 70 per cent of those treated in hospital have recovered sufficiently to return to work. [657] From 1948 to 1950 there were 58 Government employees admitted to hospital under the regulations granting 12 months' full-pay sick leave to T.B. sufferers. It is estimated that 80 per cent of those have resumed, or will be fit to resume, work following treatment.

Notifications of pulmonary T.B. reached the record figure of 530 in 1950. This rise was due to the ever increasing numbers of those who came to Aden from other countries attracted by the news of successful treatment. As far as the Aden born population was concerned the cases notified in 1950 showed a definite decrease as compared with 1949.

Malaria

The Colony remained completely free from malaria and the vigorous anti-mosquito campaign reduced the number of breeding places of domestic mosquitoes to the record low figure of one detected breeding place in every 5,000 houses and surroundings inspected.

● 165 *Maternity and Child Welfare*

For the first time in six years the infant mortality rate for 1949 showed a definite fall as opposed to a small but steady rise since 1946. Preliminary figures for 1950 show there has been a further decrease bringing the infantile mortality rate down to around 140 ; in 1944 it was 187.

748 758 Another advance has been the recruitment of four Home Visitors to go into the homes and teach the mothers the elementary principles of infant care. Three of the Home Visitors are Muslim women and it is an achievment to have persuaded them to break with tradition and undertake outdoor work.

743 758 Not only have the attendances at the Maternity and Child Welfare Clinic shown large increases, but the proportion of Arabian women and children reached 60 per cent of total attendances as compared with 25 per cent in 1944.

7: Gt. Brit., Colonial Office G-3 (1949-50) 1951 MM1 Aden mm1

The rapidly growing demand for in-patient and out-patient care at the Clinic has created a situation which can only be met by providing increased accommodation and staff. Plans to meet these needs are under consideration. 743

Training 759

One Senior Assistant Medical Officer obtained the Diploma in Ophthalmic Medicine and Surgery (London); one attended a six months' refresher course at Edinburgh on skin and venereal diseases; and a third proceeded to Glasgow to study for a diploma in radiology

One female and one male nurse went to the United Kingdom for training. This was the first time an Arabian female nurse had been sent from Aden for training. The total number of nurses now training in British hospitals is four males and one female.

In addition two Arab males were awarded scholarships in medicine and both are studying in the United Kingdom.

VITAL STATISTICS; 1949 161

Population (estimated) ..	100,000 163
Births	2,553
Birth-rate	25·53 per thousand 165
Deaths	1,658 (376 non-residents included)
Death-rate	16·58 per thousand
Deaths under one year of age	413
Infant Mortality Rate (excluding imported cases) ..	158·63 per thousand live births
Still-birth rate	54 per thousand total births

Throughout the period, the Principal Medical Officer, British Forces, and his staff have rendered most valuable assistance in dealing with medical and health problems and this generous and friendly co-operation has been greatly appreciated; and without the skilled assistance of the medical staff of the Keith Falconer Mission Hospital and the Charitable Dispensaries the department would have found it impossible to meet all the demands made upon it. 657

HOUSING

There are four types of housing in the Colony : 342

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8:Gt. Brit., Colonial Office G-3 (1951-52)1954 MM1 Aden MM1

PART II

Chapter 1 : Population

[69] The last census of Aden Colony was taken in 1946 ; the total civil population then was 80,516, made up as follows :

		Males	*Females*
Arabs born in	Aden	13,471	14,126
	Protectorate	4,658	1,752
	Yemen	20,659	3,789
	Jews	3,816	3,457
	Somalis	2,283	2,042
Indians	Muslims	3,708	3,473
	Hindus	1,190	766
	Parsee	214	101
Europeans		219	147
Others (including Indian Christians)		375	270

The end of year estimates of the total population were as follows :

1951	100,000
1952	130,000

167 This can be taken only as a very rough guide as there are no reliable figures of land immigration or emigration. Comparatively large numbers of Arabs enter the Colony from the Protectorates and Yemen in search of work and, judging from the increase in the number of persons demanding houses, the large majority must be staying in Aden. Part of the increase is also due to the extra employment offered by the Refinery project.

165 163 The number of births and deaths in 1951 and 1952 were as follows :

	Births			*Deaths*		
	M.	*F.*	*Rate**	*M.*	*F.*	*Rate**
1951	1,323	1,130	24.53	894	613	11.62
1952	1,640	1,333	29.73	884	530	11.84

* per 1,000 on an assumed population of 100,000.

167 The number of persons entering the Colony through the Port were as follows :

Race	*Passengers in Transit and Residents Returning*		*Arriving on New Entry Permits*		*Arriving on Visitors' Passes*	
	1951	*1952*	*1951*	*1952*	*1951*	*1952*
United Kingdom Nationals	1,303	1,765	57	337	167	388
Indians and Pakistanis Hindus, Parsees & Others	1,353	1,420	198	191	279	443
Indians and Pakistanis— Muslims	599	627	53	20	111	143
Arabs	5,913	8,357	25	3	554	508
Somalis	2,349	1,343	7	—	910	1,342
Jews	157	142	1	—	3	1
Others	1,279	1,586	102	153	487	384
TOTALS	12,953	15,240	443	704	2,511	3,209

8:Gt. Brit., Colonial Office G-3 (1951-52)1954 MM1 Aden MM1

658 Technical College in November, 1951, the only remaining capital project was the Intermediate School for Girls.

Health

Although a special medical officer for schools was not appointed the amount of medical and dental attention was increased. The system of school dressers and of attendance at hospital was improved. There was no epidemic during the year. The supply of school milk was extended to the full three terms instead of, as previously, two terms.

HEALTH

General

164 Although the port is astride the main sea route between the Indian Ocean and the Mediterranean Sea it has remained conspicuously free 744 from any of the Convention diseases. Plague, cholera, smallpox, yellow fever and typhus did not occur in the Colony during 1951–52 —indeed they have not occurred as endemic diseases for a number of years. Many ships and dhows of many nationalities reach the port in transit to other parts of the world, but vigilance by the Port Health Authorities and the Public Health Department combined with growing appreciation of the value of the International Sanitary Control measures have ensured the continued absence of epidemic diseases. During the latter part of 1952 influenza was imported from Europe and elsewhere, and caused the sickness rate to rise. Fortunately this disease did not increase the mortality rate.

From an epidemiological point of view the hinterland of Aden presents greater problems than do the sea and airborne traffic except, probably, the importation of influenza which is more likely to arrive by sea and air than from the interior.

An outbreak of plague in the Yemen in 1951 was countered in Aden by dusting immigrants from the Yemen with 10 per cent D.D.T. at the Police posts on the outskirts of the Colony, and anti-rat measures were intensified.

364 The state of environmental hygiene and sanitation continued to be fairly satisfactory, there being a marked absence of flies and mosquitoes. Sanitation in certain areas still requires attention and this is being examined with a view to providing better housing conditions.

Maternity and Child Welfare

165 The infant mortality rate has shown a steady decline over the last 10 years. In 1951 the crude rate was 156.96 per 1,000 live births, in 1952 it was 139.92 per 1,000. As a comparison it may be mentioned that in 1943 the crude rate was 238.97 per 1,000. Increased attention has been given to the maternity and child welfare aspects of the Medical Department's work and during April, 1952, a new block of wards was in the process of being added to the existing Maternity and Child Welfare Hospital and Clinic. In order to expand the influence of maternity and child welfare work in homes four Home Visitors were engaged. These Visitors have proved invaluable ; they were recruited

8:Gt. Brit., Colonial Office G-3 (1951-52)1954 MM1 Aden MM1

from local Arab women who observed purdah and were, therefore, able to gain easy access to the homes of others who also observed the purdah system. 165

The maternal mortality rate fell from 3.07 per 1,000 live and still-births in 1951 to 2.23 per 1,000 in 1952.

Diseases

Diseases attributable to water-borne infection were entirely absent because the water supply is protected and chlorinated. The cases of enteric fever or dysentery which do occur are of a sporadic nature, many of them having been infected outside the Colony. 164

The death rate from pulmonary tuberculosis showed a steady decline over previous years. In 1950 the death rate was recorded as 113 per 100,000 of the population ; in 1951 100 per 100,000 ; in 1952 84 per 100,000. During 1952 the World Health Organisation sent an international team, comprising one medical officer and one nurse, to carry out tuberculin testing of the local population below the age of 18 and to inoculate all non-reactors with B.C.G. vaccine. The team stayed in Aden for four months and tested approximately 31,000 people, of whom 7,750 non-reactors were vaccinated, approximately 14,000 were positive reactors and 8,000 or so persons failed to reappear for inspection. It is hoped to follow this visit up by asking the World Health Organisation to undertake a tuberculosis survey of the Colony. 165 6-3 744

The Colony remained free from malaria and the Aedes index fell to the lowest yet recorded figure of 0.007. 164

The principal causes of mortality in 1951 were :

Diarrhoea and enteritis	304
Other fevers	266
Senility	171
Pneumonia and broncho-pneumonia	147
Tuberculosis of the respiratory system	100
Congenital malformations and diseases peculiar to first year of life	94
Diseases of the heart	62
Violent or accidental deaths	66
Other diseases of the respiratory system	48

Modern treatment for these diseases is given by the Civil Hospital (350 beds) and the Church of Scotland Mission (80 beds) and, when required, generous assistance is provided by the R.A.F. medical officers stationed in Aden, both in consultative and specialist capacities. Steps have been taken to introduce the international statistical classification of diseases, injuries and causes of death so that closer comparison can be made with other countries. 743

Prevention of the diseases listed above follows the usually accepted procedures but special emphasis is placed on a purified water supply, high standard of sanitation and the necessity for legislation to control itinerant vendors of foodstuffs. Milk, either goat's or cow's, is usually boiled before use and does not constitute a grave danger in the spread of disease. 744

8:Gt. Brit., Colonial Office G-3 (1951-52)1954 MM1 Aden MM1

Licensing of Vehicles. £19,756 was collected in fees in 1952 and £15,386 in 1951. The increase was mainly due to the arrival of vehicles in the Colony in connection with the construction of the refinery at Little Aden.

The number of driving licences issued in 1952 was 1,423 compared with 968 in 1951.

Traffic Accidents. There were 384 accidents on the roads of the Colony in 1952 and 242 in 1951. The number of persons killed was 25 in 1952 and 11 in 1951.

Licensing of Arms. Very strict control over the licensing of arms is maintained and licences to possess arms are only issued after the most careful enquiries have been made. An amnesty was proclaimed in October, 1952, advising persons in possession of unlicensed firearms to license them or hand them over to the Police.

PRISONS

General

The Aden Prison is the only penal institution in the Colony and provides accommodation for all convicted offenders, irrespective of age and length of sentence, persons committed to prison on remand, and deportees awaiting deportation. In addition, the prison is declared a place of detention for persons of unsound mind with criminal tendencies.

Approximately 73 per cent of the convicted prisoners come from the Yemen, the Protectorate, and neighbouring territories. Almost all of them are illiterate and very primitive.

Administration of the prison follows the practice adopted in Indian and most colonial prisons and is governed by the Prison Ordinance.

Staff

The prison is under the control of a part-time Superintendent who is assisted by a jailer, an assistant jailer and two clerks. The warders, including instructors, numbered 38.

Prisoners

The total committals to prison was 2,184 in 1952, compared with 1,949 in 1951. The daily average of prisoners of all classes was 179 in 1952 as against 134 in 1951. Prisoners admitted to prison on conviction are divided into two categories, first offenders and recidivists. The percentages of first offenders and recidivists were 54 and 46 respectively.

Discipline

Order and discipline among the prisoners were well maintained during the period.

Health

The general state of health of all prisoners was satisfactory. The daily average sick was 3.2 in 1952, as against 3.3 in 1951. There was no serious illness among the prison inmates during 1952. A Medical

N 212 185 658 in the Protectorate has recently been undertaken by the British authorities, while in some areas, particularly in the Qu'aiti Sultanate, schools are now supported by the local governments. Scattered primary and Koranic schools, and at least one postprimary school, are found in each of the protectorates. In the course of a medical survey N 212 565 in Western Aden Protectorate in 1939-40,[20] the degree of literacy was found to average 20 per cent among the men and practically zero among the women. The highest literacy rates were encountered among the Seiyids, a group recognized as the social and the religious leaders. A college for the sons of N [873] chiefs from Western Aden Protectorate is located at Aden.

Vital Statistics

A 659 163 165 Registration of births and deaths is compulsory in the Colony. In the 5 years 1946-50, the birth rate, calculated on the basis of the census returns for 1946, ranged from 26.6 to 31.7 per 1,000 population; the death rate, from 20.1 to 23.5 per 1,000 population. The significance of the mortality A 165 464 statistics is influenced adversely by the continuous movement of laborers between the Colony and their homes in Yemen and the Protectorate, and the influx of sick individuals from the interior to Aden hospitals, many of whom are in a seriously debilitated condition on arrival. In 1950, for example, the recorded deaths totaled 1,644, of which 511 were among nonresidents. The death rate, as reported, was 20.1 per 1,000 of the 1946 census population, but, eliminating the nonresident deaths, it is reduced to 14.2 per 1,000 population. Corrected to the estimated population for that year, the crude death rate figured at 16.4 per 1,000 and the resident rate at 11.3 per 1,000 population.

A 165 731 The infant mortality rate has declined appreciably within recent years. It had been less than 200 per 1,000 live births for several decades, but it reached a peak of 239 per 1,000 in 1943, when famine conditions prevailed throughout much of southwestern Arabia. The annual rates averaged 176 per

1,000 live births in the 4 years 1945-48, and subsequently declined to 162 in 1949 and to 166 in 1950. As in the case of population death rates, the infant mortality statistics are exaggerated by the inclusion of immigrant deaths.

Figures for the 5 years 1946-50 indicate that deaths among children under 5 years of age accounted for 34 to 38 per cent of the total deaths. The stillbirth rate varied from 54 to 73 per 1,000 births; the maternal mortality rate, from 4 to 7 per 1,000 live births and stillbirths.

Few statistical studies have been made in the Aden protectorates. The total death and infant mortality rates are believed to be generally higher than those of the Colony, but in the absence of authentic records, inadequate data are available for measuring the actual health status of the people. Evidence obtained from the interrogation of 76 women, from 15 to 45 years of age, in Western Aden Protectorate in 1939-40[20] suggests an average infant mortality of 245 per 1,000 live births, varying from 80 to over 500 in different localities. Infancy was not accurately defined, however, and any baby breast-fed and unable to walk was classified as an infant. The mortality among children under 5 years of age was 25 to 100 per cent greater in most areas. Malnutrition and ignorance of the fundamental principles of child care are important factors contributing to the high mortality in infancy and early childhood in both the Colony and the Protectorate.

Social Economy

The economy of the Colony is based almost entirely upon shipping and trade. Not only is Aden a prominent fueling station for ocean and coastwise vessels, but it derives considerable wealth from the transshipment of goods to and from Yemen and adjacent territories, usually by means of dhows and camel caravans. The production of salt in evaporation beds along the coast surrounding Aden harbor is the only export industry. Numerous small plants have been

Colonial government. Five physicians were working in the eastern protectorate; one in the western.

Dentists. In 1950, there were 3 dentists in Aden, one of whom was employed on the government's school health program.

DISEASES

The statistics compiled from the reports of cases of illness and death in the Colony are apt to give an erroneous impression of the health status of the local inhabitants, since a considerable proportion of the cases treated in hospitals and dispensaries are immigrants from Yemen or the Protectorate. Large numbers enter the Colony each year as transient laborers or traders, while others seek medical attention which is nonexistent in their home communities. The majority are undernourished and live in miserable, crowded quarters under conditions which facilitate the spread of infection. Morbidity and fatality rates in the immigrant population are abnormally high, and affect adversely the health statistics of the Colony as a whole. In the absence of adequate laboratory facilities, the diagnosis of many diseases is necessarily provisional, and the differentiation of various types of infection is seldom made. Moreover, from 10 to 15 per cent of the deaths are usually recorded under the heading "other fevers."

The health facilities in the Protectorate are of recent origin, and although dispensaries have been established in increasing numbers within the last two decades, they are elementary and serve only a small fraction of the population. The meager information derived from the reports of a few medical observers who have toured sections of the interior and from records of admissions to the hospitals in Aden permits scarcely more than rough generalizations as to the prevalence and the distribution of specific diseases among the peoples of the Protectorate. The diseases of primary concern in this area are malaria, tuberculosis, dysentery and eye and skin infections, all

of which are almost invariably associated with widespread undernutrition.

Diseases Spread or Contracted Chiefly Through Intestinal or Urinary Tract

Typhoid and Paratyphoid Fevers. Typhoid fever is sporadic, and 10 to 35 cases are reported from the Colony each year. Over one half of the known cases occur usually among nonresident laborers. Paratyphoid fevers are grouped with typhoid in the morbidity statistics. The rate of infection is not known, but both paratyphoid A and paratyphoid B fevers are undoubtedly present. Typhoid fever is apparently endemic in the Protectorate, although recognized cases are reputedly rare in the Hadhramaut.

Dysenteries. Dystentery is prevalent throughout this region, where the unhygienic habits of the people and the abundance of flies promote the spread of intestinal infections. From 500 to 1,300 cases are treated annually in the civilian hospitals and dispensaries in the Colony. Amebic dysentery predominates among the few cases in which the differential diagnosis is established, but a large proportion of the remainder are probably bacillary infections. Of the 589 cases recorded in 1949, 1 was diagnosed as bacillary dysentery and 48 as amebic, while 540 were unclassified. The percentage of carriers of *Endamoeba histolytica* is believed to be high: it has been estimated at 40 to 50 per cent among immigrants from Yemen, many of whom are engaged in the handling of foodstuffs in the Colony.

Amebic and bacillary dysentery, as well as diarrhea and enteritis, are grouped together as "dysentery" in the official statistics. In each of the 5 years 1946-50, the dysentery deaths numbered 334 to 406, or approximately 20 to 25 per cent of the recorded mortality in the Colony. Among the 393 deaths reported in 1950 as due to dysentery, 107 were among the immigrant population. The younger age groups are most seriously affected, and the local au-

A 165 167 854 146 thorities regard undernutrition and incorrect methods of feeding as important underlying factors. The deaths in infants under 1 year of age totaled 175 in 1950, or about 44 per cent of the known dysentery deaths.

H 164 No precise information is available regarding bacillary and amebic dysentery in the Protectorate, but the high rate of infection among visitors to Aden Colony suggests that both are widespread.

A 164 361 744 Cholera. Cholera has not been reported from Aden within the present century, although outbreaks have followed its introduction in the past. Since no record exists of its presence in the Hadhramaut, it is probable that the disease was largely confined to the port towns.

During the 1947 outbreak in Egypt, traffic through Aden was increased due to the quarantine restrictions imposed on Egyptian ports. Special precautions were taken by the health authorities to prevent the admission of infected individuals or goods by sea, land or air routes. Immunization against cholera was also provided for all persons handling shipping and for all health service personnel.

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H 164 Helminthiases. SCHISTOSOMIASIS. Schistosomiasis is endemic in scattered localities in Western Aden Protectorate, especially in the highland districts above 2,000 feet elevation. Foci of *Schistosoma haematobium* are known to exist in the Jebel Jehaf and Dhala' plateau country, in the Wadi Tiban area around Museimir, and in the vicinity of Tor am Baha, Huwemi and Khor 'Umeira. *S. mansoni* is apparently more restricted in distribution, but it is found in the Jebel Jehaf and the Wadi Tiban regions.

A 164 No locally acquired infections are reported from the Colony, although numerous cases among persons from the interior are treated in the civilian hospitals each year. A large proportion of the cases seen in Aden Colony come from Yemen or from the Dhala' and the Museimir districts.

H A 136 The intermediate snail hosts of *S. haematobium* and *S. mansoni* have not been definitely established, but Bulinus and Planor-

reported from the Colony of Aden since 1929. A few cases are treated almost every year in the Colony hospitals, but, with rare exceptions, they have occurred among immigrant families or among persons arriving from other ports. Vaccination against smallpox is compulsory for all residents of the Colony. In addition, intensive revaccination campaigns are undertaken by the health authorities whenever cases are discovered, or when outbreaks are reported from adjacent areas, as at the time of the epidemic in Mukalla in 1949. Although visitors to the Colony are required to possess valid certificates of vaccination, enforcement is sometimes difficult because of the large numbers of dhows and other small vessels which ply between Aden and Indian or African ports. Vaccination posts are established along the land frontiers on caravan routes from Yemen and Western Aden Protectorate, at which immigrants are examined, and, if necessary, vaccinated.

Other Infections. Pneumonia is widespread, ranking among the leading causes of death in both the Colony and the Protectorate. The fatality rate among the immigrant community in the Colony is unusually high, since many of the individuals who flock to the port in search of work or medical attention arrive in a debilitated condition. Sporadic cases of diphtheria are reported each year from the Colony. Chickenpox, measles, mumps and poliomyelitis are endemic. Localized outbreaks of meningococcus meningitis are recorded occasionally.

Diseases Spread or Contracted Chiefly Through Contact

Venereal Diseases. All forms of venereal diseases are observed among the civilian populations in Aden Colony. Syphilis and gonorrhea are reportable, but the statistics probably fail to give a true picture of the relative frequency of the different venereal infections. In 1948 and 1949, following the inauguration of a campaign for better re-

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A 164 744 officers. Special delousing stations were established along the 3 main trade routes from Yemen to guard against the development of new foci.

The prevalence of the infection diminished during the summer months, but sporadic outbreaks were again reported in the winter of 1944-45. Early in 1945, a H 164 743 744 series of permanent dispensaries was organized in Western Aden Protectorate, and the tribal dressers in charge were trained to undertake mass dusting of the populace with DDT powder in the event of further epidemics. No outbreaks of typhus have been reported from the Protectorate since 1945, although the disease has continued to smolder in Yemen.

A 164 Murine typhus is probably endemic. Suspected cases have been observed in Aden hospitals from time to time, but the diagnosis has not been confirmed by laboratory diagnosis.

Plague. Six outbreaks of plague have been recorded from the Colony within the present century—in 1899-1900, 1903-04, 1904-05, 1913-14, 1917-18 and 1927-28. The most serious epidemics were those of 1904-05, involving 2,299 known cases, and of A [165] 1927-28, with 1,494 cases and a fatality rate A 164 464 232 of 74 per cent. In each outbreak the initial cases were detected among dock laborers employed in moving cargo or in loading or unloading coal. Since evidence of a preliminary rat epizootic was lacking, the local authorities concluded that the disease had been introduced by infected workers or by individuals carrying infected fleas. It was A [165] considered probable that the rat infection was secondary to the human. The morbidity rates almost invariably reached a peak in February or March, and declined with the onset of hot weather. No plague has been reported from the Colony since 1928, but the danger of its importation by means of dhow traffic from endemic ports in Africa H A 744 and the East is always present. The Medical and Health Department carries on an active rat control program, and examines significant numbers of captured rats each